The following Listing of Claims will replace all prior versions, and listings, of claims in the present application:

Listing of Claims:

1-14.   (Canceled)

15.   (Currently Amended) A <u>computational</u> method for providing visualization of items from data sets, the method comprising:

determining, for a plurality of items from said data set, a set of properties, said set of properties including a relationship to each other of the subsets of items in the data set, and a value applied to the relationships between the items;

applying local rankings of the relationships between terms, by ranking items i that relate to each item j, and ranking all items k to which item j relates, thereby ranking the affinity of each item j to item sets i and k;

generating a visualization by presenting results separately for each item in a data set and adjusting the presentation to avoid information overlap and overload; and

providing separate presentation for each item of the data set by generating an affinity chart for each item j in the data set, thereby displaying items closely related to selected item j, with item j placed prominently in the affinity chart, and placing items which are more strongly related to j closer to j.

16.   (Original) The method of claim 15, further comprising the step of expressing closeness along shaped segments, emanating from j's position.

17.   (Original)   A method as in claim 16, wherein said shaped segments further comprise curved segments.

18.   (Previously Amended)   The method of claim 15, further comprising:

employing continuous curves including spiral segments, in order to connect items relating to the selected item (j) at different intensity levels;

adjusting the visualization to avoid information overlap and overload, the items related of item (j) grouped by strength of affinity;

providing an affinity chart, and spacing each related item individually with each item placed in a non-overlapping position;

presenting items with large numbers of related times with multiple affinity charts, and in the case of multiple affinity charts, providing a first affinity chart to visually represent a set of most strongly related items and providing next or subsequent related affinity charts to visually represent less strong related times;

using curves to represent a relationship of items related to a particular item positioned at a starting point for a curve, with the distance along the curve representing a strength of affinity to the item at the starting point of the curve; and

selectively employing color and shading gradations and curve thickness gradations are to emphasize the curve's role in conveying affinity strength, while placing items so they do not overlap or crowd each other.

19.   (Original)   A method for providing visualization of data sets containing a large number of items from said data sets, the method comprising:

employing continuous curves including spiral segmentation in order to connect items relating to a primary item at different intensity levels;

adjusting the visualization to avoid information overlap and overload, the items related to said primary item grouped by strength of affinity;

providing an affinity chart, and spacing each related item individually with each item placed in a non-overlapping position;

presenting items with large numbers of related items with multiple affinity charts, and in the case of multiple affinity charts, providing a first affinity chart to visually represent a set of most strongly related items and providing next or subsequent related affinity charts to visually represent less strongly related items;

using curves to represent a relationship of items related to a particular item positioned at a starting point for the curve, with distance along the curve representing a strength of affinity to the item at the starting point of the curve; and

selectively employing color and shading gradations and curve thickness gradations are to emphasize the curve's role in conveying affinity strength, while placing items so they do not overlap or crowd each other.

20.   (Currently Amended)   A method for providing visualization of arbitrarily large data sets using low and local computational resources, the method comprising:

determining, for at least a plurality of said data sets, a set of properties, said set of properties including a relationship to each other of the subsets of items in the data set, and a value applied to the relationships between the items;

determining at least one primary item for the visualization;

applying local rankings of the relationships between terms, by ranking a first

relational set of items that relate to the primary item, and ranking a second relational set of

items to which the primary item relates, thereby ranking an affinity to each primary item to

the first ~~relations~~ relational set of items and to the second relational set of items;

generating a visualization by presenting results separately for each item in a

predetermined data set and adjusting the presentation to avoid information overlap and

overload;

providing separate presentation for each item of the data set by generating an

affinity chart for each primary item in the data set, thereby displaying items closely related to

a selected primary item, with the primary item placed prominently in the affinity chart, and

placing items which are more strongly related to the primary items closer to the primary

item;

expressing closeness along curves or shaped segments, connected or

emanating from the primary item's position;, said expression of closeness including

~~completely or~~ at least partially straight shaped segments;

employing continuous curves including spiral segments, in order to connect

items relating to a primary item at different intensity levels;

adjusting the visualization to avoid information overlap and overload, the

items related to the primary item grouped by strength of affinity;

providing an affinity chart, and spacing each related item individually with

each item placed in a non-overlapping position;

presenting items with large numbers of related items with multiple affinity

charts, and in the case of multiple affinity charts, providing a first affinity chart to visually

represent a set of most strongly related items and providing next or subsequent related affinity charts to visually represent less strongly related items;

using curves to represent a relationship of items related to a particular item positioned at a starting point for the curve, with distance along the curve representing a strength of an affinity to the item at the starting point of the curve; and

selectively employing color and shading gradations and curve thickness gradations are to emphasize the curve's role in conveying affinity strength, while placing items so they do not overlap or crowd each other.

21.   (Currently Amended) A computational method for providing visualization of large interrelated data sets, the method comprising:

determining a relationship strength of related items in a data set;

for each item in the data set, ranking related items based on the relationship strength;

clustering related items based on said ranking;

computing a number of affinity charts per item;

establishing clusters of related items;

repeating the steps of ranking related items based on the relationship strength and computing the affinity charts until a desired information structure is achieved;

positioning a principal node prominently in the affinity chart; and

generating entries in said affinity chart emanating from the principal node for each of said clusters of related items, the generating of entries in said affinity chart further comprising populating a list of related items.

22.   (Original) A method as in claim 21, wherein said step of generating entries in said affinity chart further comprises laying out graphs of one per cluster of related items.

23-24. Canceled.

25.   (Currently Amended) An affinity server for _computationally_ structuring information for use in visualization of a large interrelated data set, comprising:

      means for ranking related objects based upon relationship strength;

      means for clustering related objects _based on said ranking_; and

      means for computing ~~the~~ a number of affinity charts per object.

26.   (Currently Amended) A computer readable medium containing computer program instructions for _computing and_ providing visualization of items from data sets, said computer program instructions containing instructions for:

      determining, for at least a plurality of said data sets, a set of properties, said set of properties including a relationship to each other of the subsets of items in the data set, and a value applied to the relationships between the items;

      applying local linkings of relationships between terms, by ranking items i that relate to each item j, and ranking all items k to which j relates, thereby ranking the affinity to each item j to item sets i and k;

generating a visualization by presenting results separately for each item in a predetermined data set and adjusting the presentation to avoid information overlap and overload; and

providing separate presentation for each item of the data set by generating an affinity chart for each item j in the data set, thereby displaying items closely related to selected item j, with item j placed prominently in the affinity chart, and placing items with which are more strongly related to j closer to j in the affinity chart.

27.   (Original) A system for providing visualization of items from data sets at a first computer operably coupled to a second computer over a communications network, comprising:

a computerized server associated with said second computer, said computerized server including data set visualization software executable on said computerized server and configured to:

determine, for a plurality of said data sets, a set of properties, said set of properties including a relationship to each other of the subsets of items in the data set, and a value applied to the relationships between the items;

apply local rankings of the relationships between terms, by ranking items i that relate to each item j, and ranking all items k to which item j relates, thereby ranking the affinity of each item j to item sets i and k;

generate a visualization by presenting results separately for each item in a data set and adjusting the presentation to avoid information overlap and overload; and

providing separate presentation for each item of the data set by generating an affinity chart for each item j in the data set, thereby displaying items closely related to selected item j, with item j placed prominently in the affinity chart, and placing items which are more strongly related to j closer to j.

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